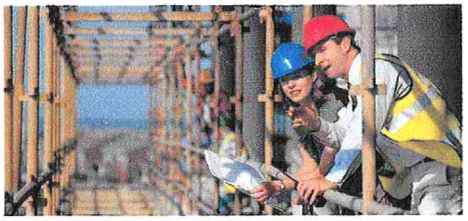


Risk Report (Preliminary)

Location Findings

FM Global

Amsted Industries Incorporated
Consolidated Metco, Inc.
13940 North Rivergate Blvd
Portland, Oregon 97203
USA

Fire & Natural Hazards
Baseline Risk Evaluation
Visit by Douglas F. Burnett on
05 May, 2003 in conference with
Mr. Tom Duncan, Plant Manager

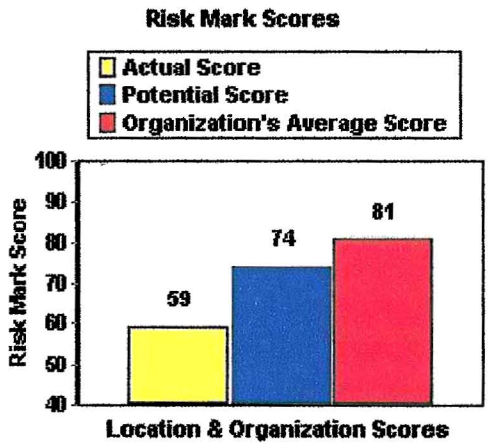
Understanding the Hazards at this Facility

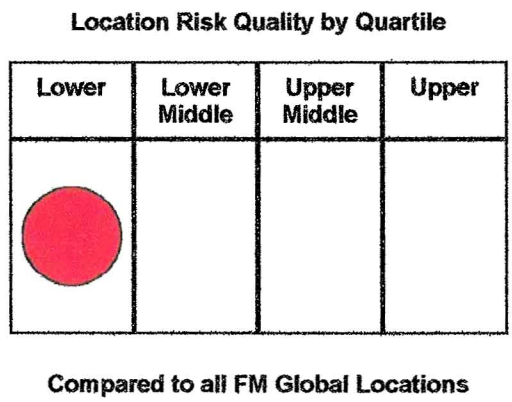
Mechanical and electrical breakdown of equipment is the most significant and common hazard facing the foundry and forging industry. Almost 40 percent of all loss values in this occupancy is attributed to this hazard. Extensive equipment dismantles, unique equipment and long replacement times can lead to extended disruption of production. Molten metal spills and radioactive contamination events comprise nearly 20 percent of the total loss values in this occupancy. A molten metal breakout can cause severe physical damage to key equipment and impact production. Radioactive contamination can affect the furnace, hood, caster, and dust collection systems with the potential for an extended loss of production. Fire losses comprise 15 percent of the total loss values. The unsafe handling of flammable liquids or gases is by far the biggest source of fire damage. The leading ignition sources are hot work and hot surfaces inherent to the occupancy. Flood losses comprise 50 percent of the natural hazard losses. This knowledge of the common hazards and our loss experience shows that the most important areas of attention should be as follows:A well planned inspection, testing and maintenance program for mechanical and electrical equipment can have the greatest impact on minimizing losses in this occupancy. Adequate sparing of key mechanical/electrical equipment and working contingency plans can minimize production losses. Prevention and control of molten metal spills can minimize the frequency and severity of spills. Monitoring incoming scrap can prevent the introduction of radioactive isotopes into the furnace. Sprinkler protection provided as dictated by the construction and hazardous processes can minimize the effect of a fire event. The provision of spot sprinkler protection or other local fixed protection such as CO_2 protection for quench oil tanks are good partial solutions, especially in unsprinklered areas. Effective, working, flood emergency procedures can minimize exposure and startup after a flood.

878244

Location Overview

This display shows calculated "Risk Mark" scores for this location. "Risk Mark" is a risk quality rating on a 0-100 scale (lowest to highest). The first chart shows the location score, the location "Potential Score" (assuming all recommendations are removed) and the organization's average score (weighted by value). The second chart shows how the location score ranks (in terms of quartiles) relative to other locations visited by FM Global.





Management of Exposures

Existing conditions at this facility adequately address the exposures to loss except as noted in the following recommendations. Completion of these items will help to prevent losses and help minimize the possibility of costly interruptions to your business. Completion of these items will also help to lower the frequency and severity of losses.

03-05-001

Provide safeguards to prevent the release of flammable gases during a seismic event.

The following items regarding existing natural hazard deficiencies at this facility should be considered.

The Hazard

The lateral forces associated with a major earthquake often damage the integrity of gas systems, allowing gas to leak into the air. Escaping flammable gas provides ample fuel to support an explosion or supply a major fire. Typically, this flow of fuel continues unabated—a situation that frequently is worsened by concurrent breakage of unbraced automatic sprinkler piping, delayed public fire service response resulting from the need to focus on rescue operations, and the loss of fire service water supplies.

Part A.

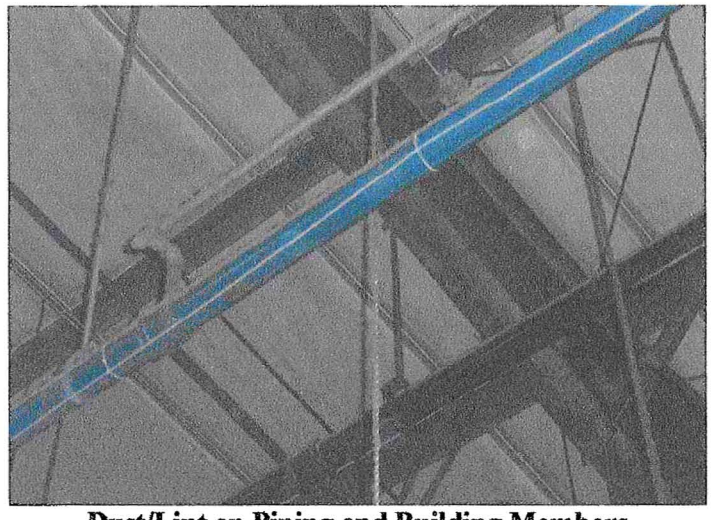
Provide equipment restraint and flexible hose connections to all natural gas fired equipment.

For equipment supplied with bulk flammable gas, provide equipment restraint and, or, flexibility in flammable gas supply pipe connection.

Natural Gas Fired Space Heaters

Part B.

Provide a semic shut-off valve for the natural gas line entering the building.

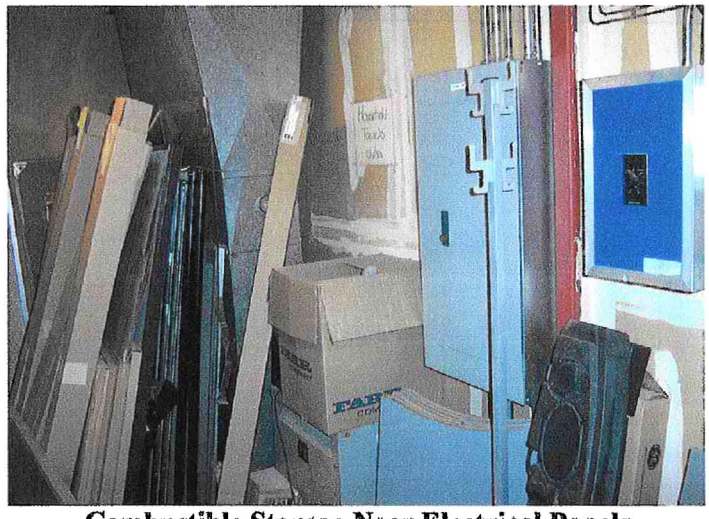
03-05-002	**Remove Combustible dust and lint off sprinkler mains and building members in production buildings.** Combustible dust accumulations should be removed. As part of a regular housekeeping schedule, the reduction of dust accumulation on equipment, fixtures, sprinkler piping/heads, building elements, etc., should be given high priority.
The Hazard	Excess dust and lint can create a fire or explosion hazard. If dust from building members or sprinkler piping is suspended in air a fire or explosion can result causing massive damage to equipment, product and building.  **Dust/Lint on Piping and Building Members**

03-05-003	**Add the office building electrical rooms to the Monthly inspection program.** A program should be established for inspecting and maintaining good housekeeping practices in the office building.

03-05-003 (continued)

The Hazard

Combustible loading near electrical panels combines a ignition source and fuel for a fire. In the event of an electrical malfunction, the fuel (cardboard, paper, etc.) could be ignited and a subsequent fire would occur.



Combustible Storage Near Electrical Panels

03-05-004

Develop a flood emergency response plan.

A flood emergency response plan should be developed, with advance warning systems, flood response stages, pre- flooding actions, flood fighting operations, post-flood recovery actions, and business continuity plans. The plan should be documented, training for members should be kept up-to-date, and alternates members should be available.

The Hazard

Pre planning to identify what equipment, material and data are essential to business operations will help to form a evacuation priority list. This will help reduce the severity of loss and allow core business areas to operate with minimal downtime.

00-12-008

Install automatic sprinkler protection in the Main Office building.

Automatic sprinkler protection should be installed throughout the Main Office building. The system should be capable of providing a density of 0.10 gpm/sq. ft. over the hydraulically most remote 1500 sq. ft., including an outside fire hose allowance of 250 gpm.

00-12-008 (continued)

The Hazard	Automatic sprinkler protection has proven to be the best defense against a major fire loss in structures that have either combustible construction and/or a combustible occupancy. Without sprinkler protection, a fire event in an electrical room could potentially destroy the wood constructed building. Although production controls are not housed in the office building, many essential duties such as engineering, accounting, etc. are and would be lost in a fire event.

Combustible Loading Near Electrical Panels Without Sprinkler Protection

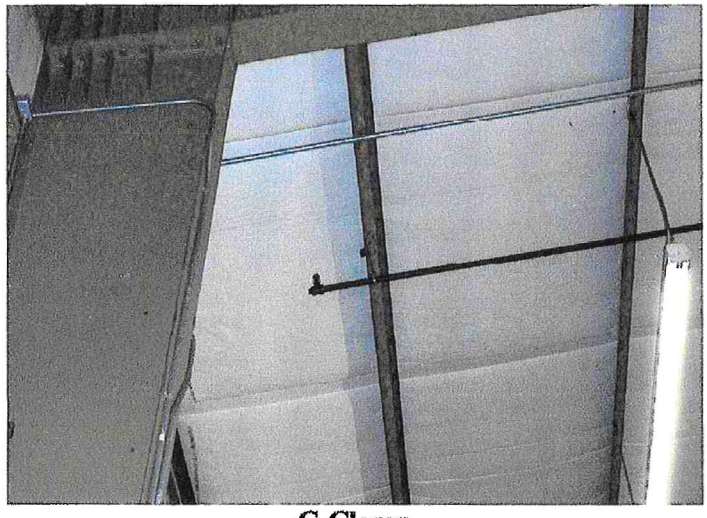
Status	The final conference did not focus on this recommendation.

00-12-010

Install adequate earthquake protection to the sprinkler systems in the Warehouse & Gusset bldgs.

Install adequate earthquake protection to the water-based automatic sprinkler systems. Deficiencies include lack of adequate four-way bracing at the risers, lateral and longitudinal bracing along the mains, and proper hangers at the mains. Before any work is undertaken, a complete review of the deficiencies should be completed. FM Global will work with the selected sprinkler contractor to assure that recommendations are understood and that criteria outlined in FM Global Property Loss Prevention Data Sheet 2-8 are met.

00-12-010
(continued)

The Hazard	Without proper bracing, automatic sprinkler pipes can shake violently during a seismic event. If the seismic event is of great magnitude, the pipes can break resulting in water damage to goods and leave the manufacturing facility without protection from a fire.
	 **C-Clamp**
Status	The final conference did not focus on this recommendation.

Ongoing Services

FM Global is available to provide support in all areas of property loss prevention. These services include:

- Development of specifications for projects such as new construction, automatic protection systems, and process safeguards
- Review of related project plans
- Assistance in implementing and managing loss prevention programs
- On site review and acceptance of completed projects
- Assistance in managing impaired protection systems

For access to these services, contact one of the following:

- San Francisco Operations:
  FM Global
  100 Pringle Avenue
  Suite 400
  Walnut Creek, CA 94596
  USA
  [1] (925) 934 2200

- John A. Kunz, Account Engineer:
  FM Global
  300 S. Northwest Highway
  Park Ridge, IL 60068
  USA
  [1] (847) 430 7000

Reference Information

Site Contact: Mr. Tom Duncan, Plant Manager at 503-978-6601
Final Conference Attendees: Mr. Tom Duncan, Plant Manager; Mr. Ernie Nimister, Envir. Compliance & Safety; Mr. Robert Lowe, Operations Manager
Location Index Number: 077570.60-08
Account Number: 01-00043
Risk Mark Information included in this report is current as of 01 May, 2003.

Risk Report

Location Findings

Amsted Industries Incorporated
Consolidated Metco, Inc.
13940 North Rivergate Blvd.
Portland, Oregon 97203
USA

Fire & Natural Hazards
Interim Risk Evaluation
Visit by Joseph J. Tushner on
24 March 2005 in conference with
Mr. Tom Duncan, Plant Manager

Understanding the Hazards at this Facility

Mechanical and electrical breakdown of equipment is the most significant and common hazard facing the foundry and forging industry. Almost 40 percent of all loss values in this occupancy is attributed to this hazard. Extensive equipment dismantles, unique equipment and long replacement times can lead to extended disruption of production. Molten metal spills comprise nearly 20 percent of the total loss values in this occupancy. A molten metal breakout can cause severe physical damage to key equipment and impact production. Fire losses comprise 15 percent of the total loss values. The unsafe handling of flammable liquids or gases (natural gas) is by far the biggest source of fire damage. The leading ignition sources are hot work and hot surfaces inherent to the occupancy. Flood losses comprise 50 percent of the natural hazard losses. This knowledge of the common hazards and our loss experience shows that the most important areas of attention should be as follows:

- A well-planned inspection, testing and maintenance program for mechanical and electrical equipment can have the greatest impact on minimizing losses in this occupancy;
- Adequate sparing of key mechanical/electrical equipment and working contingency plans can minimize production losses;
- Prevention and control of molten metal spills can minimize the frequency and severity of spills;
- Sprinkler protection provided as dictated by the construction and hazardous processes can minimize the effect of a fire event; and
- Effective, working, flood emergency procedures can minimize exposure and startup after a flood.

During closing conference discussions with management, hazards specific to this site were identified. These hazards include a natural gas fire or explosion due to a seismic event and a fire burning out of control completely destroying the office building.

"Key Exposures" are those that can most directly impact loss experience. Associated recommendations are flagged as "Key" since they address the hazards that are most likely to lead to a serious loss.

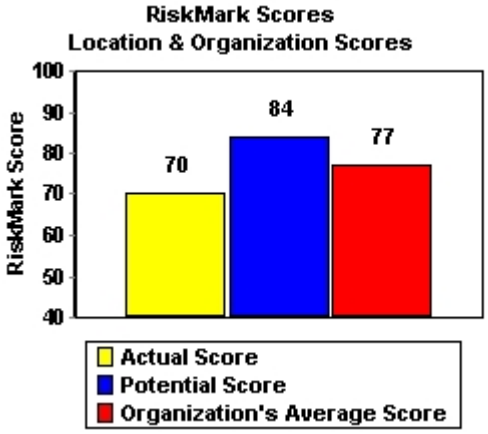
Location Overview

The following display shows the "RiskMark" scores calculated for this location. RiskMark is a benchmarking tool which rates the risk quality of the associated location on a scale of 0-100 (lowest to highest quality). The RiskMark score is calculated taking into account fire hazards, inherent natural hazards, and FM Global loss history for locations with similar occupancies.

Note: RiskMark does not currently include equipment hazards in the scoring calculations; however, future versions will incorporate this aspect of risk quality.

The first chart shows the location score, the location potential score (assuming all recommendations are completed) and the organization's average score (weighted by location value). The potential score may be less than 100 because some hazards cannot be eliminated and some occupancies are inherently more hazardous; each factor can result in an automatic deduction.

To assist in comparison of this location's score relative to other FM Global locations, the second chart displays the range in quartiles of all scores for the locations FM Global has visited worldwide. The colored circle indicates in which quartile this location's score falls. For reference, the lower quartile represents the lowest range of scores and risk quality whereas the upper quartile represents the highest.



Location Risk Quality by Quartile

Lower	Lower Middle	Upper Middle	Upper
●			

Compared to all FM Global Locations

Further information on RiskMark can be found online at:
http://www.fmglobal.com/myrisk/riskmark.pdf

Management of Exposures

Certain potential hazards and conditions were evaluated at this facility. Completion of the following items will help lower both the frequency and severity of losses and minimize the possibility of costly interruptions to your business.

Key Exposures

Experience shows that the majority of all losses in this type of facility can be prevented or minimized by addressing the **Key Exposures**, which are flagged below.

03-05-001	**Provide safeguards to prevent the release of flammable gases during a seismic event.** The following items regarding existing natural hazard deficiencies at this facility should be considered:
The Hazard	The forces associated with a major earthquake often damage the integrity of gas systems, allowing gas to leak into the air. Escaping flammable gas provides ample fuel to support an explosion or supply a major fire. Typically, this flow of fuel continues unabated—a situation that frequently is worsened by concurrent breakage of unbraced automatic sprinkler piping, delayed public fire service response resulting from the need to focus on rescue operations, and the loss of fire service water supplies.
Part A. *Key Exposure*	**Provide equipment restraint and flexible hose connections to all natural gas-fired equipment. (Last Revised 24 March 2005)** For equipment supplied with bulk flammable gas, provide equipment restraint and, or, flexibility in flammable gas supply pipe connection. Flexibility should allow for 6 inches of movement in all directions. Equipment needing this protection includes the furnaces and ceiling space heaters.
The Hazard	 **Natural Gas Fired Space Heaters**
Status	Mr. Tom Duncan, Plant Manager, agreed to work on providing anchorage and flexibility for the gas fired equipment. Bracing and flexibility needs were reviewed for several pieces of equipment during this visit.

Part B. *Key Exposure*	**Provide a seismic gas shut-off valve for the natural gas line entering the building.** A seismically activated gas shut-off valve should be provided for the natural gas line entering each building where gas is used. This valve should be located just prior to the piping entering the building. The manufacturer's recommendations for bracing of the piping near the valve should be closely followed.
Status	Mr. Duncan said there are no plans to provide this protection due to concerns about false tripping.

00-12-008	**Install automatic sprinkler protection in the Main Office building.** Automatic sprinkler protection should be installed throughout the Main Office building. The system should be capable of providing a density of 0.10 gpm/sq. ft. over the hydraulically most remote 1,500 sq. ft., including an outside fire hose allowance of 250 gpm.
The Hazard	Automatic sprinkler protection has proven to be the best defense against a major fire loss in structures that have either combustible construction and/or a combustible occupancy. Without sprinkler protection, a fire event in an electrical room could potentially destroy the wood constructed building. Although production controls are not housed in the office building, many essential duties such as engineering, accounting, etc. are and would be lost in a fire event.
Status	Mr. Tom Duncan said sprinkler protection would not be provided here due to economic concerns.

03-05-004	**Develop a Flood Emergency Response Plan. (Last Revised 24 March 2005)** A basic flood plan has been partially developed, but should be supplemented by assigning a person to monitor flood conditions and initiate the plan, and by adding monitoring of the below grade furnace pits as part of the plan. It would then be a satisfactory basic plan.
The Hazard	Pre-planning to identify what equipment, material and data are essential to business operations will help to form a evacuation priority list. This will help reduce the severity of loss and allow core business areas to operate with minimal downtime.
Status	A basic flood plan has been partially developed and will be complete with the remaining items added as listed. This is to be done.

Risk Reduction

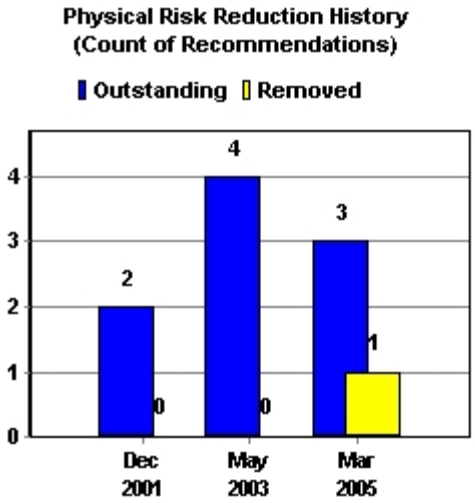
Recommendations that have been completed or otherwise removed are summarized in this section. Risk Reduction involving **Physical Recommendations** is quantified in this report by counting the completed recommendations. **Human Element Recommendations** that have been completed often do not have an associated loss estimate since they usually serve to lower the frequency and/or severity of a loss. For this reason, we quantify them by counting the number of such items that have been completed.

The "counts" of recommendations referenced in this section include each part of multi-part recommendations except in cases where each part represents optional ways to address a single hazard. In such cases, the recommendation is only counted once.

Physical Recommendations

The following **Physical** recommendation has been completed or removed as a result of this evaluation:

Rec Number	Recommendation Synopsis *Reason for Deletion*	Removal Method
00-12-010	Install adequate earthquake protection to sprinkler systems in the Warehouse and Gusset buildings.	Completed 24 Mar 05

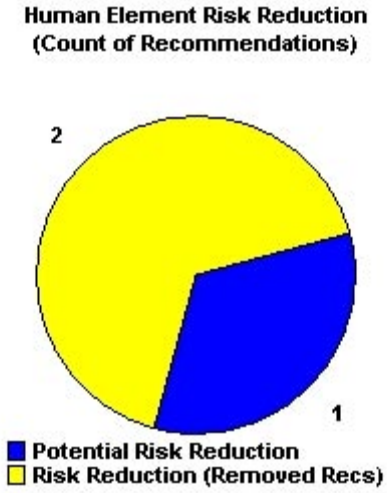


Human Element Recommendations

The following **Human Element** recommendations have been completed or removed as a result of this evaluation:

Rec Number	Recommendation Synopsis *Reason for Deletion*	Removal Method
03-05-002	Remove combustible dust and lint off sprinkler mains and building members in production buildings.	Completed 24 Mar 05
03-05-003	Add the office building electrical rooms to the monthly inspection program.	Completed 24 Mar 05

Human Element Recommendations (continued)



Comments

A Flood Emergency Response Plan has been documented in the plant emergency procedures. This plan includes monitoring of flood conditions, shutdown of plant processes, and sandbagging of critical areas. This plan will be considered an adequate basic emergency response plan with flood monitoring activities assigned to a specific person and when monitoring of the below grade furnace pits is included in the plan. Recommendation 03-05-004 has been modified to reflect current conditions.

Dust and lint accumulations on piping and building members has been removed in the production buildings. Cleaning of these deposits is to be done annually in the future through the PM system. This completes former Recommendation 03-05-002 and it has been removed from this report.

The electrical room in the Office Building has been emptied of excessive combustible storage and is now monitored periodically to see that this room remains free of combustible storage. This completes former Recommendation 03-05-003 and it has been removed from this report.

Seismic bracing has been upgraded in the Warehouse and Gusset Buildings. This work was completed in March 2004 and was documented in a visit by FM Global at that time. A remaining issue from that visit was the bracing of the dry pipe sprinkler system riser and a far end lateral brace to building purlins rather than structural steel. Due to the small sizes of the piping involved (3 in. riser, 1-1/2 in. main), this bracing is accepted as adequate and Recommendation 00-12-010 has been removed from this report.

Plant personnel reported false trip issues with the dry pipe sprinkler system in the past. The air pressure on this system was found to be 24 psi during this visit. With the normal water pressure here at 90 psi, the dry valve could be expected to trip just below 20 psi air pressure, or even higher with a surge in water pressure. Plant personnel were advised to increase the air pressure here to at least 30 psi to reduce the false trip exposure. Water delivery from this system would not be significantly impacted by this change due to the small size of the system.

Ongoing Services

FM Global is available to provide support in all areas of property loss prevention. These services include:

- Development of specifications for projects such as new construction, automatic protection systems, and process safeguards
- Review of related project plans
- Assistance in implementing and managing loss prevention programs
- On site review and acceptance of completed projects
- Assistance in managing impaired protection systems

For access to these services, contact one of the following:

- Seattle Office:
  Key Center
  601 108th Avenue, N.E.
  Suite 1400
  Bellevue, WA 98004
  USA
  [1] (425) 455 5333

- John A. Kunz, Account Engineer:
  FM Global
  300 S. Northwest Highway
  Park Ridge, IL 60068
  USA
  [1] (847) 430 7000

Reference Information

Site Contact: Mr. Tom Duncan, Plant Manager at +1 (1) 503 9786601
Final Conference Attendees: Mr. Tom Duncan, Plant Manager; Mr. Ernie Nimister, Envir. Compliance and Safety; Mr. Robert Lowe, Operations Manager
Location Index Number: 077570.60-08
Account Number: 1-00043

RiskMark Information included in this report is current as of 30 March 2005.

FM Global Risk Report

Location Findings
Amsted Industries Incorporated

ConMet
Consolidated Metco, Inc.
13940 North Rivergate Boulevard
Portland, Oregon 97203
USA

All in One
Baseline Risk Evaluation

Visit by:	Andrew J. Young
Visit date:	22 August 2007
Conference with:	Mr. Bruce Post, Assistant Plant Manager-Rivergate

Index: 077570.60-08 / **Account:** 1-00043 / **Order ID:** 669945-9

Principal Site Activity

This facility is a foundry and machine shop, which produces aluminum parts such as wheel hubs.

Understanding the Hazards at this Facility

Mechanical and electrical breakdowns of equipment is the most significant and common hazard facing the foundry and forging industry. Almost 40 percent of all loss values in this occupancy is attributed to this hazard. Extensive equipment dismantles, unique equipment and long replacement times can lead to an extended disruption of production. Molten metal spills comprise nearly 20 percent of the total loss values in this occupancy. A molten metal breakout can cause severe physical damage to key equipment and impact production. Fire losses comprise 15 percent of the total loss values. The leading ignition sources are hot work and hot surfaces inherent to the occupancy. Flood losses comprise 50 percent of the natural hazard losses. This knowledge of the common hazards and our loss experience shows that the most important areas of attention should be as follows:

- A well-planned inspection, testing and maintenance program for mechanical and electrical equipment can have the greatest impact on minimizing losses in this occupancy;
- Adequate sparing of key mechanical/electrical equipment and working contingency plans can minimize production losses;
- Prevention and control of molten metal spills can minimize the frequency and severity of spills;
- Sprinkler protection provided as dictated by the construction and hazardous processes can minimize the effect of a fire event;
- Effective flood emergency procedures can minimize the exposure and startup after a flood.

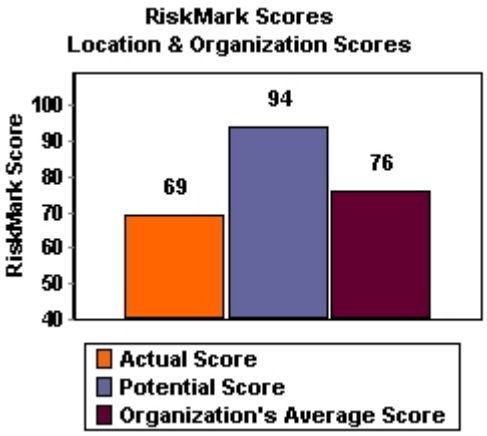
Location Overview

The following display shows the RiskMark scores calculated for this location. RiskMark is a benchmarking tool which rates the risk quality of the associated location on a scale of 0-100 (lowest to highest quality). The RiskMark score is calculated taking into account fire hazards, inherent natural hazards, and FM Global loss history for locations with similar occupancies.

Note: RiskMark does not currently include equipment hazards in the scoring calculations; however, future versions will incorporate this aspect of risk quality.

The first chart shows the location score, the location potential score (assuming all recommendations are completed) and the organization's average score (weighted by location value). The potential score may be less than 100 because some hazards cannot be eliminated and some occupancies are inherently more hazardous; each factor can result in an automatic deduction.

To assist in comparison of this location's score relative to other FM Global locations, the second chart displays the range in quartiles of all scores for the locations FM Global has visited worldwide. The checkmark indicates in which quartile this location's score falls. For reference, the lower quartile represents the lowest range of scores and risk quality whereas the upper quartile represents the highest.



Location Risk Quality by Quartile*

Upper	
Upper Middle	
Lower Middle	
Lower	✓

**Compared to all FM Global Locations*

Further information on RiskMark can be found online at:
http://www.fmglobal.com/myrisk/riskmark.pdf

Management of Exposures

Certain potential hazards and conditions were evaluated at this facility. Completion of the following items will help lower both the frequency and severity of losses and minimize the possibility of costly interruptions to your business.

03-05-001

Provide safeguards to prevent the release of flammable gases during a seismic event.

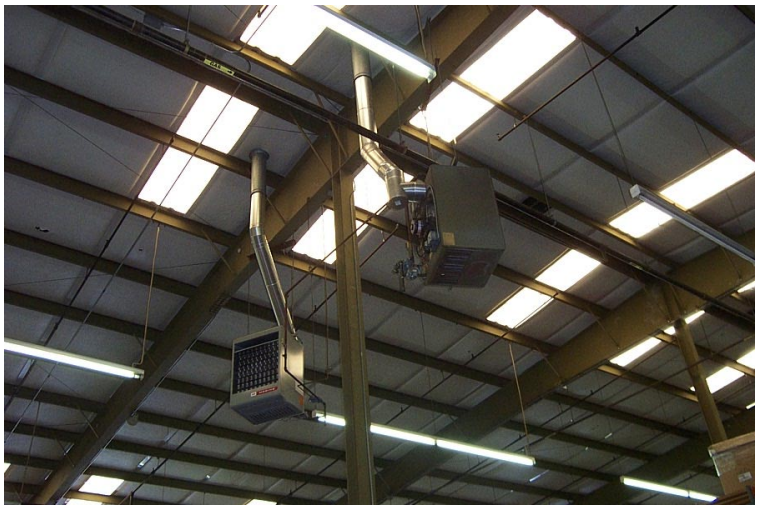
The following items regarding existing natural hazard deficiencies at this facility should be considered:

The Hazard	The forces associated with a major earthquake often damage the integrity of gas systems, allowing gas to leak into the air. Escaping flammable gas provides ample fuel to support an explosion or supply a major fire. Typically, this flow of fuel continues unabated, a situation that frequently is worsened by concurrent breakage of automatic sprinkler piping that lacks bracing. In addition, delayed public fire service response resulting from the need to focus on rescue operations, and the loss of fire service water supplies will occur.

Part A.

Provide equipment restraint and flexible hose connections to all natural gas-fired equipment.

For equipment supplied with bulk flammable gas, provide equipment restraint and/or flexibility in the flammable gas supply pipe connection. Flexibility should allow for six inches of movement in all directions. Equipment needing this protection includes the furnaces and ceiling space heaters.

The Hazard	 **Natural Gas Fired Space Heaters**
Status	According to Mr. Bruce Post, the recommendation will be studied for possible completion.

03-05-001 continued

Part B. **Provide a seismic gas shut-off valve for the natural gas line entering the building.**

A seismically activated gas shut-off valve should be provided for the natural gas line entering each building where gas is used. This valve should be located just prior to the piping entering the building. The manufacturer's recommendations for bracing of the piping near the valve should be closely followed.

Status	The recommendation will be completed by October 2007.

06-04-001

Install automatic sprinklers in portions of the Casting Building.

Automatic sprinklers should be installed in the office areas on the North and South ends of the building. In addition, sprinklers should be installed in the center section of the building with the plank on the timber roof.

The Hazard	A fire starting in the wood frame office areas could spread to the plank on the timber roof. Fire would then spread on the combustible construction resulting in heavy damage to the building and equipment. The result could be a lengthy outage to production in the Casting Building.
Technical Detail	***As a partial solution, provide three sprinklers below the wood roof on about 12 feet of spacing over each set of offices at opposite ends of the building. Process water may be used as the supply to minimize the cost of this protection. A waterflow switch with an alarm and control valve should be provided at the connection to the process water supply within the building.***
Status	The recommendation will be studied for possible completion.

07-08-001

Submit plans and specifications for any new construction and fuel fired equipment.

Plans and specifications for any new construction, roofing or roof repairs, changes in fire protection, installation of gas-fired equipment or occupancy changes should be forwarded to FM Global for review and comment prior to the start of the work.

These should be sent to:
FM Global Plan Review Department
601-108th Ave, Suite 1400
Bellevue, WA 98004

The Hazard	FM Global plan review provides for inclusion of the best of FM Global loss prevention practices prior to implementing these changes.
Status	The recommendation will be completed by September 2007.

00-12-008 **Install automatic sprinkler protection in the Main Office building.**

Automatic sprinkler protection should be installed throughout the Main Office building. The system should be capable of providing a density of 0.10 gpm/sq. ft. over the hydraulically most remote 1,500 sq. ft., including an outside fire hose allowance of 250 gpm.

The Hazard	Automatic sprinkler protection has proven to be the best defense against a major fire loss in structures that have either combustible construction and/or a combustible occupancy. Without sprinkler protection, a fire event in an electrical room could potentially destroy the wood constructed building. Although production controls are not housed in the office building, many essential duties such as engineering, accounting etc. would be lost in a fire event.
Status	According to Mr. Bruce Post, there are no current plans to complete the recommendation.

Risk Reduction

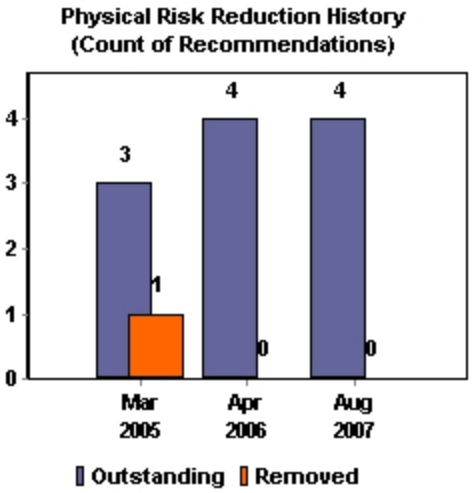
Recommendations that have been completed or otherwise removed are summarized in this section.

The "counts" of recommendations referenced in this section include each part of multi-part recommendations except in cases where each part represents optional ways to address a single hazard. In such cases, the recommendation is only counted once.

These charts illustrate current risk reduction status since the last inspection visit, and also include an historical account of previous risk reduction activity on a cumulative basis. Focus and special visits are not tracked separately, but the total outstanding recommendation counts reflect the full history since March 2005.

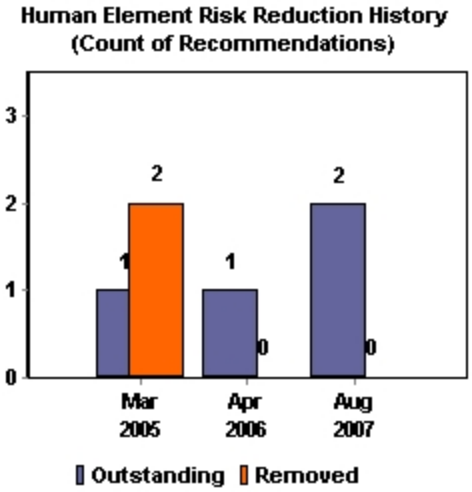
Physical Recommendations

No **Physical** recommendations have been completed or removed since our last evaluation.



Human Element Recommendations

No **Human Element** recommendations have been completed or removed since our last evaluation.



Comments

The foundry and machine shop are now shut down, but are scheduled to restart in 2008. Assembly is the only activity at this site at this time. The large melter furnace is presently being disassembled. Management agreed to test all fuel combustion safety controls prior to start up of all gas fired equipment.

A new fluidized bed heat treat furnace has been installed. This is a gas fired furnace with adequate fuel combustion safety controls provided. These controls and the interlocks associated with them were tested during commissioning earlier this year. A trial ignition test was conducted during this visit which provided evidence of a ten second trial for an ignition period which is acceptable. Other interlock tests were not conducted during this visit due to the recent commissioning.

The trip testing records for the dry pipe sprinkler system could not be located during this visit. Plans are to witness trip testing of this system during a visit to accept the seismic gas shut-off valves which will be installed in October, 2007. A flushing investigation of this dry pipe sprinkler system will be conducted in conjunction with the trip test.

Ongoing Services

FM Global is available to provide support in all areas of property loss prevention. These services include:

- Development of specifications for projects such as new construction, automatic protection systems, and process safeguards
- Review of related project plans
- Assistance in implementing and managing loss prevention programs
- On site review and acceptance of completed projects
- Assistance in managing impaired protection systems

For access to these services, contact one of the following:

Seattle Office:
Key Center
601 108th Avenue, N.E.
Suite 1400
Bellevue, WA 98004
USA
[1] (425) 455 5333

John A. Kunz, Account Engineer:
FM Global
300 S. Northwest Highway
Park Ridge, IL 60068
USA
[1] (847) 430 7000

Reference Information

Location Findings

Amsted Industries Incorporated
ConMet
Consolidated Metco, Inc.
13940 North Rivergate Boulevard
Portland, Oregon 97203
USA

All in One
Baseline Risk Evaluation

Visit by:	Andrew J. Young
Visit date:	22 August 2007
Site Contact:	Mr. Tom Duncan, Plant Manager at +1 503 9786601, tduncan@conmet.com
Final Conference Attendees:	Mr. Bruce Post, Assistant Plant Manager-Rivergate; Mr. Darren Kennedy, Maintenance Supervisor
Location Index Number:	077570.60-08
Account Number:	1-00043

RiskMark Information included in this report is current as of 29 August 2007.